CONTENTS

Modern X-Ray Fluorescence Analysis 1
J. V. GILFRICH

Present Status of Microwave Sample Dissolution and Decomposition for Elemental Analysis 21
H. MATUSIEWICZ and R. E. STURGEON

Thin Films, Interfaces, and Nonclassical Spectroscopy 41
P. W. BOHN

Use of Expert System Shells in the Design of ACExpert: Automated Atomic Absorption Spectrometry 73
W. R. BROWETT and M. J. STILLMAN

Scanning Electron Microscopy Studies of Surfaces from Electrothermal Atomic Absorption Spectrometry 111
B. WELZ, G. SCHLEMMER, H. M. ORTNER and W. WEGSCHEIDER

High-Resolution Laser-Induced Ionization Spectroscopy 247
B. A. BUSHAW

Magneto-Optic Rotation in Atomic Vapours 277
R. STEPHENS

Intracavity Dye Laser Photoacoustic Spectroscopy and its Application to High Energy Vibrational Overtone Spectra 349
B. R. HENRY and M. G. SOWA

Electrodeless Discharge Lamps 369
J. SNEDDON, R. F. BROWNER, P. N. KELIHER, J. D. WINEFORDNER, D. J. BUTCHER and R. G. MICHEL

Advances in the Determination of the Noble Metals in Geological, Environmental and Industrial Materials by Flame and Electrothermal Atomic-Absorption Spectroscopy 403
J. G. SEN GUPTA

Application of Isotope Ratios Determined by ICP-MS to Earth Science Studies 433
D. C. GREGOIRE

Thermal Wave Imaging in the Physicochemical Analysis and Evaluation of Solid Phase Samples 453
J. F. POWER

Electric Arc Atomization: Experiment, Theory, Analytical Prospects 507
I. S. FISHMAN, A. KH. GILMUTDINOV and V. V. RYZHOV

High Resolution UV–Fourier Transform Spectrometry 569
R. D. SNOOK